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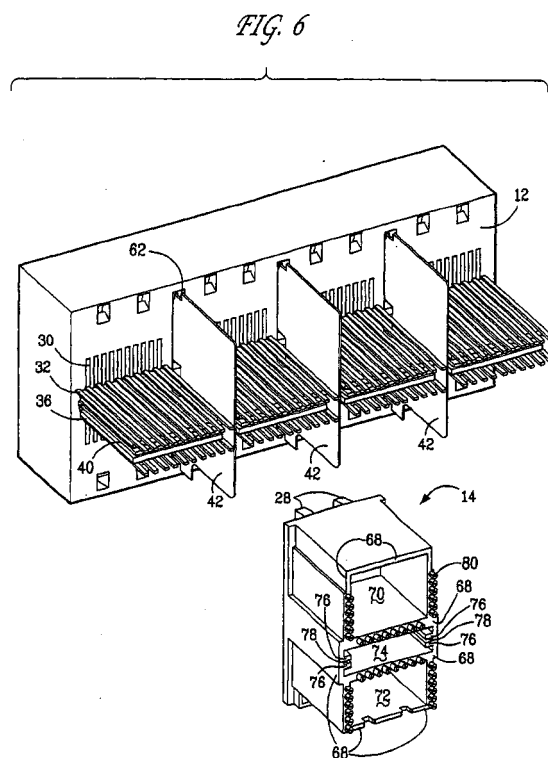
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(54) **A modular jack with magnetic components**

(57) A modular jack for housing magnetic components includes a housing (12) which has a plurality of ports each of which can receive an electrical connector. Extending into each of the ports are a plurality of contacts for connecting to contacts of an electrical connector. The ports may be arranged in a stacked configuration in which case the modular jack is a double deck jack. Attached to the housing may be one or more magnetic housing (14). Each magnetic housing can house at least one magnetic component, which can be a transformer. Preferably, there is a magnetic housing for every two ports, and the magnetic housing houses a magnetic component for each port. Shields (40, 42) can be installed into the housing between the magnetic components in order to provide isolation of the components. A printed wire board can be attached to the magnetic housing, and a contact carrier having a plurality of contacts can be attached to the printed wire board



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EUROPEAN SEARCH REPORT

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EP 02 02 6460

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	GB 2 347 796 A (BEL FUSE INC) 13 September 2000 (2000-09-13) * claim 2 *	1,9	H01R13/514 H01R24/00
A	WO 00 22697 A (STEWART CONNECTOR SYSTEMS) 20 April 2000 (2000-04-20) * figure 25 *	1,9	
A	EP 1 063 735 A (BERG ELECTRONICS MFG) 27 December 2000 (2000-12-27) * figures 15,17 *	1,9	
A	US 6 176 741 B1 (SHUTTER RONALD A) 23 January 2001 (2001-01-23) * the whole document *	1,9	
A	US 6 102 741 A (BOUTROS KAMAL SHAWIKY ET AL) 15 August 2000 (2000-08-15) * the whole document *	1,9	
A	US 5 971 805 A (MARSHALL ROBERT E ET AL) 26 October 1999 (1999-10-26) * the whole document *	1,9	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H01R
A	US 6 227 911 B1 (BOUTROS KAMAL SHAWIKY ET AL) 8 May 2001 (2001-05-08) * figure 2 *	1,9	
A	US 6 062 908 A (JONES TERRILL H) 16 May 2000 (2000-05-16) * column 1, line 12 - line 24 *	1,9	
A	US 5 069 641 A (FUKUTANI IWA0 ET AL) 3 December 1991 (1991-12-03) * figure 1 *	1,9	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 19 November 2003	Examiner Salojärvi, K
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 02 6460

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The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-11-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2347796 A	13-09-2000	DE 10003368 A1	14-09-2000
		FR 2789236 A1	04-08-2000
		GB 2382236 A , B	21-05-2003
		TW 531945 B	11-05-2003
		US 6425781 B1	30-07-2002
WO 0022697 A	20-04-2000	AU 6429399 A	01-05-2000
		CN 1331857 T	16-01-2002
		EP 1121727 A1	08-08-2001
		JP 3416650 B2	16-06-2003
		JP 2002527876 T	27-08-2002
		NO 20011855 A	13-06-2001
		WO 0022697 A1	20-04-2000
		US 6554638 B1	29-04-2003
EP 1063735 A	27-12-2000	US 6319064 B1	20-11-2001
		CA 2312459 A1	22-12-2000
		CN 1278666 A	03-01-2001
		EP 1063735 A2	27-12-2000
		JP 2001043937 A	16-02-2001
		SG 87121 A1	19-03-2002
		TW 464089 Y	11-11-2001
US 6176741 B1	23-01-2001	AU 3656099 A	08-11-1999
		EP 1074071 A1	07-02-2001
		JP 2002512433 T	23-04-2002
		TW 434951 B	16-05-2001
		WO 9954968 A1	28-10-1999
US 6102741 A	15-08-2000	US 5872492 A	16-02-1999
		EP 0903011 A1	24-03-1999
		JP 2002514341 T	14-05-2002
		WO 9747083 A1	11-12-1997
US 5971805 A	26-10-1999	AT 227892 T	15-11-2002
		CN 1265235 T	30-08-2000
		DE 69809416 D1	19-12-2002
		DE 69809416 T2	08-05-2003
		EP 0986839 A2	22-03-2000
		ES 2187971 T3	16-06-2003
		JP 2002514348 T	14-05-2002
		WO 9854789 A2	03-12-1998
		US 6159050 A	12-12-2000
US 6227911 B1	08-05-2001	AU 5897899 A	27-03-2000
		CA 2342998 A1	16-03-2000

EPO FORM P/459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 02 6460

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-11-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6227911 B1		DE 19983535 T0	16-08-2001
		GB 2357911 A ,B	04-07-2001
		TW 451526 B	21-08-2001
		WO 0014832 A1	16-03-2000
US 6062908 A	16-05-2000	AU 5925098 A	18-08-1998
		WO 9833242 A1	30-07-1998
US 5069641 A	03-12-1991	DE 4103321 A1	08-08-1991